

86643

Experience Made With the Numerical Forecast of Humidity, Cloudiness, and Precipitations With the Aid of a Computer

deficiency δ , the authors proceeded from the equation for the diffusion of specific humidity, and derived equation (6) which was first obtained

by M. Ye. Shvets:
$$\frac{d_h \delta}{dt} = \left[\frac{\kappa - 1}{\kappa} T - \frac{(b + t_d)^2}{ab M} \right] \frac{\tau}{p} - \tau \frac{\partial \delta}{\partial p}$$

A statistical investigation was carried out to estimate the summands in the right-hand part of this equation. On the basis of this investigation, the final formula was obtained for calculating δ on the 850, 700, and

500 mb levels:
$$\left(\frac{\partial \delta}{\partial t} \right)_k = A (\delta, z)_k + \frac{\alpha_k}{p} \tau$$

t_d is the dew point, z the altitude of the isobaric surface, (δ, z) the finite-difference expression of the Jacobian with a "differentiation step" of 600 km. The predetermination of δ is the component and final part of the forecast of pressure fields and vertical currents. The vertical currents are determined on the levels mentioned according to the

Card 2, 8

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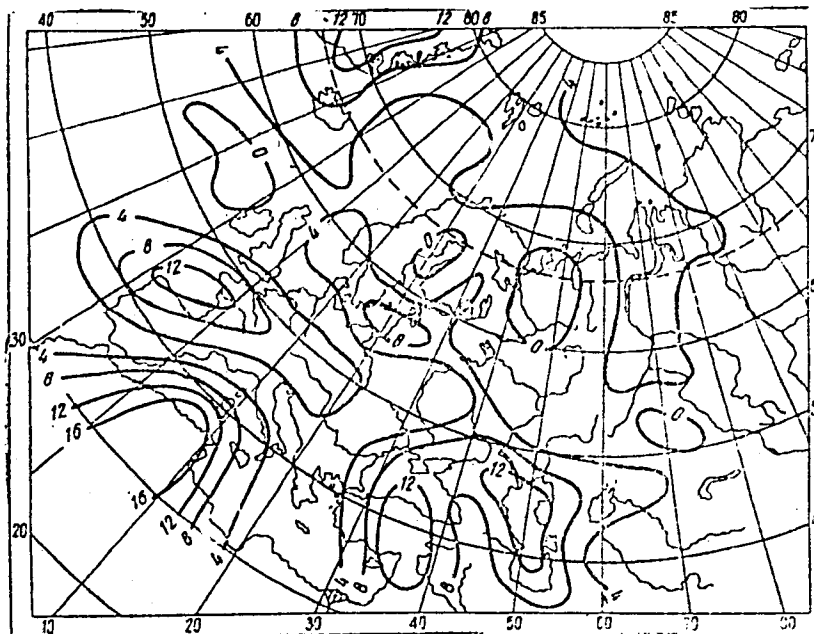
Experience Made With the Numerical Forecast of S/050/60/000/012/001/005
Humidity, Cloudiness, and Precipitations With B012/B054
the Aid of a Computer

pressure field calculated and the geopotential tendencies during each Δt . The resulting forecast of the meteorological elements mentioned is made on the ETsVM [electronic digital computer] M-20 (M-20) within 30 minutes. Nine daily forecasts of the dew-point deficiency on the 850, 700, and 500 mb levels during the cold half-year have been calculated up to date. Figs. 1 and 2 show examples of such forecasts. The authors describe the plotting of nomograms on 850 and 700 mb levels for cloudiness and precipitation forecasts (Fig.3). An analysis of forecasts of all weather processes showed a probability of 80%. There are 3 figures, 2 tables, and 6 references: 4 Soviet. ✓

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86643

S/050/60/000/012/001/005
B012/B054



Legend to Fig.1:
Actual dew-point deficiency field on the 850 mb
level at 03 hours on
February 11, 1960

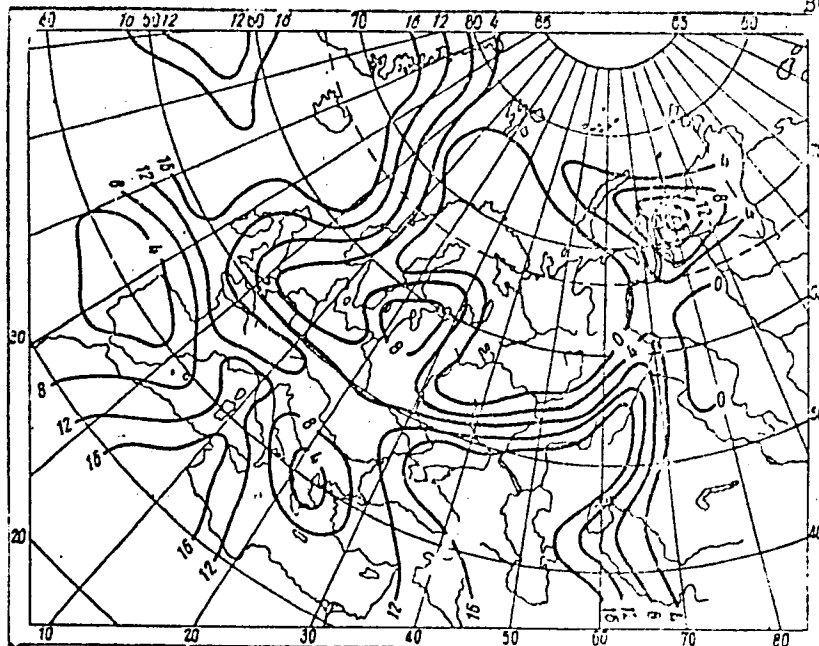
Fig.1

Card 4/8

Card 5/8

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S/050/60/000/012/001/005
B012/B054

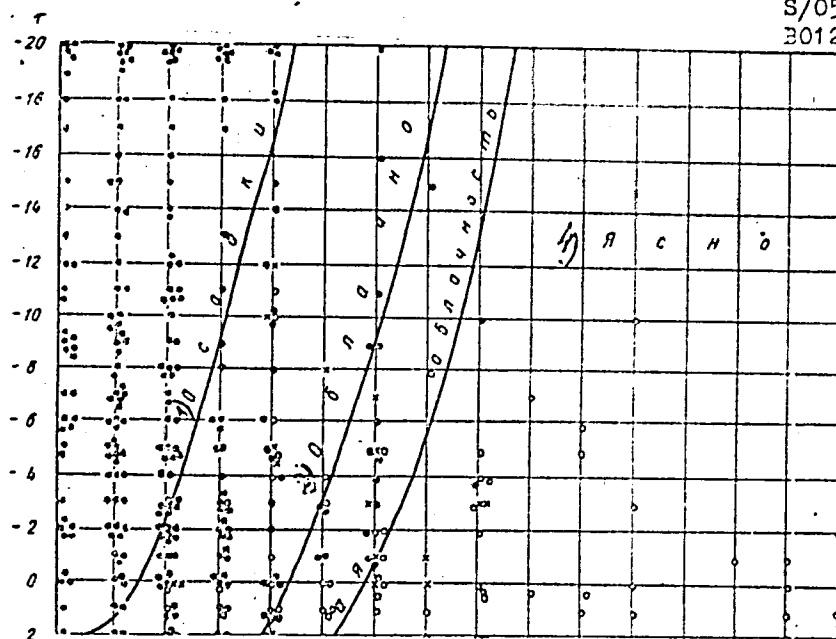


Legend to Fig.2:
Forecast dew-point defi-
ciency field on the
850 mb level at
03 hours on February 11,
1960

Fig.2

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S/050/60/000/012/001/005
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Fig. 3
(cont'd on card 8/8)

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S/050/60/000/012/001/005
B012/B054

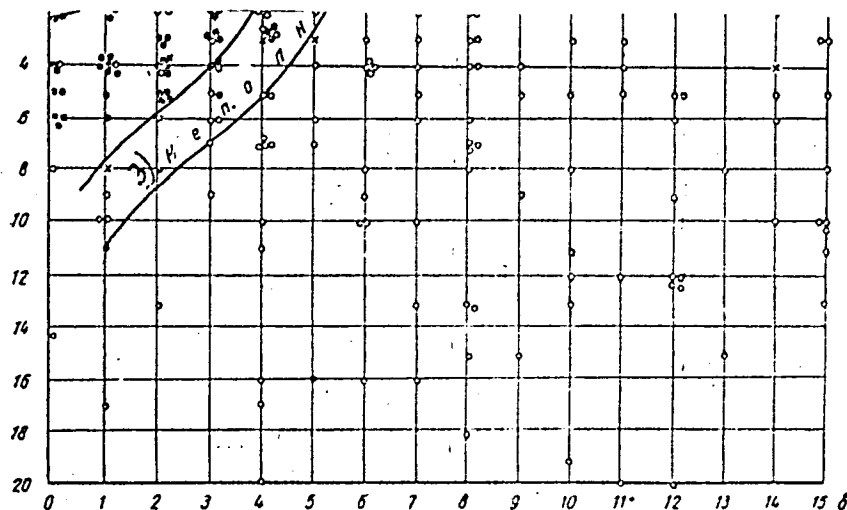
Fig.3

Legend to Fig.3: Nomogram for determining the weather processes on the 850 mb level: 1) precipitations, 2) cloudy, 3) incomplete cloudiness, 4) clear. T is air temperature, M is the module for the transition from decadic to natural logarithms (belongs to formula (6)).

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S/050/60/000/012/001/005
B012/B054



Continuation
of Fig. 3
(from Card 6/8)

Card 8/8

S/169/61/000/011/012/000
D228/D304

3,5000

AUTHORS: Dushkin, P.K., and Lomonosov, Ye.G.

TITLE: Results of forecasts of the baric field at three levels by means of a calculating machine

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 196 , 40, abstract 11B280 (Tr. Tsent. in-ta prognozov, no. 106, 1960, 20 - 31)

TEXT: A numerical scheme developed by the authors for forecasting the baric field at three levels (300, 500, and 850 mb.) is described. It is based on the known solution of the baroclinic problem of forecasting given by N.I. Buleyev, and G.I. Marchuk. The main factors permitting the derivation of a stable numerical solution to the problem are discussed (the due selection of differentiation spaces, the presentation of derivatives as final differences, the approximation of integrals as final sums, etc.). The results of fifteen trial forecasts computed on the "Strela" machine are cited. The analysis of these forecasts testifies to the definitely practical

Card 1/2

Results of forecasts of the ...

S/169/61/000/011/043/063
D228/D304

cal value of the scheme under consideration. Thus, in a number of cases this scheme enables the intense reconstruction of the baric field to be successfully precalculated. A forecast according to the barotropic scheme was also given for several cases. The baroclinic scheme gave substantially better results in all cases. The main defects of the forecasts are the errors related to the use of fictitious boundary conditions at the edges of the region. The results of the solution of the prognostic problem for the atmosphere derived by Ye. G. Lomonosov and considered as a medium which consists of two layers (the troposphere and stratosphere) differing in the magnitude of the parameter of static stability are also discussed in the work. The main differences between this solution and the one with the constant stability parameter are elucidated. The solution for the two layer medium (in comparison with the one layer solution) indicates the wider horizontal spreading of the influences of eddy advection in the stratosphere. This circumstance is connected with the fact that the stratosphere is characterized by more stable stratification. [Abstractor's notes: Complete translation]

Card 2/2

S/169/62/000/008/049/090
E073/E535

AUTHOR: Lomonosov, Ye.G.

TITLE: On applying the influence functions in hydrodynamic forecasting of the baric field

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 53, abstract 8B358 (In collection: "Materialy Soveshchaniya Koordinats. komis. po chisl. metodam prognoza". L., Gidrometeoizdat, 1961, 44-52)

TEXT: In comparing the calculation schedule on the basis of the known solution of N. I. Buleyev and G. I. Marchuk relative to the tendency of the height of the isobaric surface $\delta z/\delta t$ for quasi-geostrophic and quasi-static models of the atmosphere, the integrals are substituted by finite sums. Thereby, integration along an infinite plane, for which the Earth is taken as a simplification, is substituted by integration along a limited area. The dimensions of this area are usually determined as a rough approximation, taking into consideration the behaviour of the influence function. To avoid errors which arise in the case of such a "cutting-off" of the solution, it is proposed to solve Card 1/3

On applying the influence functions ... S/169/62/000/008/049/090
E073/E535

the problem of determining $\partial z / \partial t$ in a somewhat different formulation. The initial equation for determining $\partial z / \partial t$ is integrated according to φ from 0 to 2π and is written in a cylindrical system of coordinates r, φ, ζ , where $\zeta = p/p_0$ - the reduced pressure ($p_0 = 1000$ mb). In an appropriate manner the boundary conditions are also changed. The solution obtained for such a formulation of the problem with subsequent application of the integral transform of Hankel is applied for comparing the numerical scheme of forecasting the partial field, whereby $\partial z / \partial t$ is determined by means of successive approximations. Application of the second approximation improves the quality of diurnal forecasts of the pressure field. The given statistical characteristics of the degree of justification of the series of operative forecasts carried out according to the scheme in the second approximation, constructed on the basis of the solutions of N. I. Buleyev and G. I. Marchuk and compared by the synoptic method in TsIP also indicates a qualitative improvement of the preliminary calculations according to the here presented scheme. Obviously, the quality

Card 2/3

On applying the influence functions ... S/109/62/000/008/049/090
E073/E535

of forecasting will be better still if the number of approxima-
tions is increased. ✓

[Abstractor's note: Complete translation.]

Card 3/3

LOMONOSOV, Ye.G., kand. fiz.-matem. nauk (Moskva); POPOVA, T.P.,
kand. geograf. nauk (Moskva)

Regulated vertical movements of air and cloudiness. Meteor.
i gidrol. no.3:10-16 Mr '64. (MIRA 17:3)

DUSHKIN, P.K.; LOMONOSOV, Ye.G.; LUNIN, Yu.N.

Numerical forecasting of humidity, cloudiness, and precipitation
by the use of a calculating machine. Meteor. i gidrol. no.12:1-10
D'60.

(MIRA 13:11)

(Weather Forecasting)

ACCESSION NR: APL022210

S/0050/64/000/003/0010/0016

AUTHORS: Lomonosov, Ya. G. (Candidate of physical-mathematical sciences); Popova, T. P. (Candidate of geographical sciences)

TITLE: Ordered vertical movements of the air and of cloudiness

SOURCE: Meteorologiya i gidrologiya, no. 3, 1964, 10-16

TOPIC TAGS: air, cloud, vertical movement, ordered vertical movement, cloudiness, geostrophic approximation, advection, isobaric surface

ABSTRACT: The authors have computed vertical movement of the air on the basis of an equation for heat influx in adiabatic and geostrophic approximation. The vertical velocity is determined by geostrophic advection of temperature and by local variation in this value. The velocity may be represented as a function of the height of isobaric surfaces and as a function of the instantaneous changes in this pressure field with time. The authors have computed velocities from a number of data and have compared these values with actual states of cloudiness. They conclude that information on vertical velocities furnishes little of diagnostic value in predicting cloudiness. But, in the examples studied, where well-

Cord 1/2

ACCESSION NR: AP4022210

defined descending movements of air were observed, cloudiness was generally absent. Information on clouds (form, extent), however, may reliably determine the nature of vertical movements when conditions are favorable. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: AS

NO REF SOV: 005

OTHER: 000

Card 2/2

ACCESSION NR: AR4034738

S/0124/64/000/003/B116/B117

SOURCE: Ref. zh. Mekhan., Abs. 3B713

AUTHOR: Dushkin, P. K., Lomonosov, Ye. G.

TITLE: On clarification of the solution of the problem of 24-hour prognosis of a baric field in a barocline atmosphere

CITED SOURCE: Tr. Vses. nauchn. meteorol. soveshchaniya. T. 2. L., Gidrometeoizdat, 1963, 21-26

TOPIC TAGS: meteorology, dynamic meteorology, weather prognosis, hydrodynamic prognosis, weather forecasting

TRANSLATION: A comparison is made of the quality of hydrodynamic short-term prognosis of weather with the use of schemes based on:

- 1) the Buleyev-Marchuk integral formula, which is the solution of a suitable elliptical equation with an infinite zone along the horizontal,
- 2) the solution of this same equation in a limited zone, which is the sum of integrals along this zone (cylinder) which limit its surface.

Card 1/3

ACCESSION NR: AR4034738

The solution according to the second scheme requires sequential approximations. In the capacity of the first, a solution without a surface integral is accepted. According to the authors, this approximate formula already gives a solution which is equal in accuracy to the results of the formula of the first scheme, since in calculations according to the first scheme, the function of influence has to be "trimmed". The solution found is used for the second approximation during the calculation of the integral omitted at first, etc. From a practical standpoint, the second and third approximations coincide. This gave the basis for a limitation to two approximations in the calculations. The results of the calculations according to a three-level scheme demonstrated the superiority of the second scheme.

A four-level prognostical scheme was worked out, including the sea level and three levels of the preceding scheme. It is noted, that the quality of the prognosis on the latter did not improve; at the same time, changes in the sea level are determined basically by the physical factors of the layers above it, since the results practically do not depend on whether the subintegral functions (advection of wind and temperature) on the sea level are calculated.

A significant improvement in the prognosis on the lower levels was obtained by means of calculating friction, for which, the vertical speed was taken as

Card 2/3

ACCESSION NR: AR4034738

non-disappearing along the sea level, and proportional to the Laplace operator along the geopotential of this level. The coefficient of the turbulent viscosity was found best selected in the 20-80 sq meters/sec range.

DATE ACQ: 02Apr64

SUB CODE: AS, MM

ENCL: 00

Card 3/3

L. L. LOMONOSOV, Jr. 1941.

LOMONOSOV, Yu.M., inzhener.

Using universal boring attachments in the Tashkent excavator
factory. Stroi. i dor. mashinostr. 2 no.4:28-29 Ap '57.

(Tashkent--Excavating machinery) (MLBA 10:6)
(Machine tools--Attachments)

BYLBAS, E.V., inzh.; LOMONOSOV, Yu.M., inzh.

Research work of the technological laboratory at the Tashkent
Excavator Plant. Stroitel'mashinostr. 4 no.10:30-32
O '59. (MIRA 13:2)

{Tashkent--Excavating machinery}
{Tashkent--Engineering research}

LOMONOSOV, Yu.M., inzh.; SAMSONOV, V.G., inzh.

Use of plastics in repairing equipment at the Tashkent Ex-
cavator Plant. Mashinostroitel' no.1:15-16 Ja '60.

(MIRA 13:4)

(Tashkent--Industrial equipment--Maintenance and repair)
(Plastics)

LOMONOSOV, Yuriy Mikhaylovich; IGNATOV, Lev Aleksandrovich; AKBAROV, A.,
red.; MEL'NIKOV, A., tekhred.

[Manufacturing machine parts from capron] Izgotovlenie detalei
mashin iz kaprona. Tashkent, Gos.izd-vo Uzbekskoi SSR, 1960.
25 p. (MIRA 14:2)

(Plastics--Molding)

IGNATOV, L.A., inzh.: LOMONOSOV, Yu.M., inzh.

All-purpose adjustable dies. Stroil.i dor.mashinostr. 5 no.1:
33-36 Ja '60. (MIRA 13:5)
(Tashkent--Dies (Metalworking))

SERGEYEV, M.P.; LOMONOSOV, Yu.N.

Joint couplings with flexible dynamic connections. Trakt.i sel'khozrazh.
31 no.2:6-7 F '61. (MIRA 14:7)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo
khozyaystva.

(Couplings)

SERGEYEV, M.P., prof.; LOMONOSOV, Yu.N., inzh.

Determining the reduced moment of inertia in rotating parts of the tractor transmission. Trakt. i sel'khoz mash. 31 no. 5:15-16 My '61.
(MIRA 14:5)

1. Chelyabinskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

(Tractors--Transmission devices) (Moments of inertia)

DAVYDOV, Yu.P.; POKROVSKIY, G.V.; KONDRAT'YEVA, N.B.; Primali
uchastiye: KUZ'MICHEV, M.D.; LOMONOSOVA, A.A.; KUZ'MINA, S.P.

Mechanical properties and the forgeability of alloys of the
system aluminum - magnesium. Alum. splavy no.3:285-299 '64.

Forgeability of peened magnalium-type alloys. Ibid.:300-312
(MIRA 17:6)

LONGMOSEVA, M.A., Cand Med Sci —(disc) ^{Com} The problem of a nit re-
epidemiological evaluation of the quality of water ^{according} ~~in connection~~
~~with~~ ^{to} indexes of bacteria of the coli-bacterium group in con-
nection with ^{variability} ~~in~~ this group. Minch, 1958, 12 pp.
(Minch State Med Inst). 170 copies. (P, 22-12, 107).

FINTIKTIKOVA, R.P.; KHAHMATS, R.Z.; LOMONOSOVA, I.A.

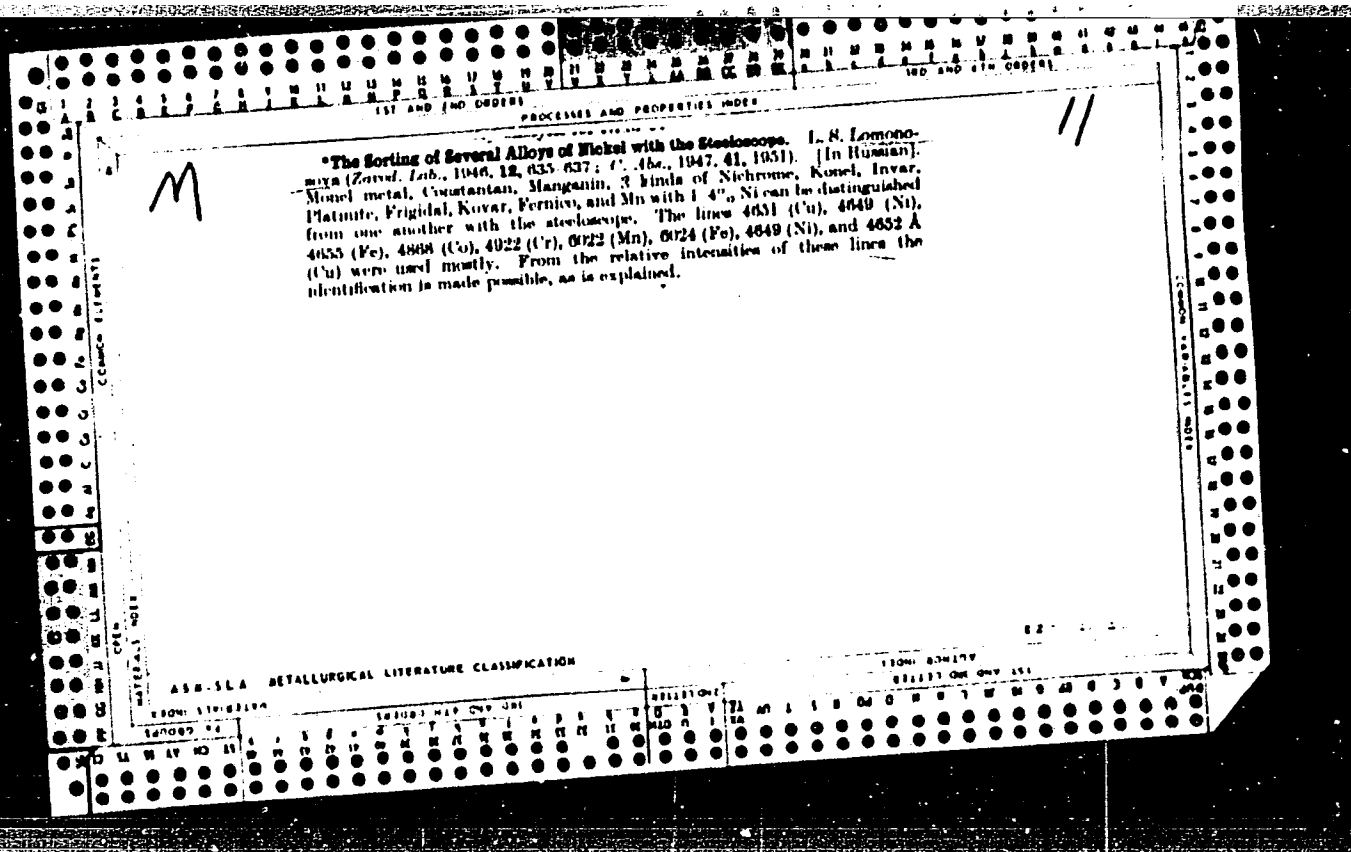
Cultural and immunizing properties of the paraperitussis bacillus and its significance in whooping cough. Report No.1. Zhur. mikrobiol. epid. i immun. 40 no.11:69-73 N '63. (MIRA 1963)

1. Iz Khar'kovskogo instituta vaktsin i syvorotok imeni Morozova

PALANT, B.L.; FINTIKTIKOVA, R.P.; VEREZUB, L.G.; LOMONOSOVA, L.A.;
KHARMATS, R.Z.; SARAYEVA, G.M.

Parapertussis bacilli isolated in foci of whooping cough
and their characteristics. Zhur. microbiol., epid. i immun.
42 no.9:31-36 S '65. (MIRA 18:12)

1. Khar'kovskiy institut vaktsin i syvorotok imeni Mechnikova
i Ukrainskiy institut usovershenstvovaniya vrachey. Submitted
February 14, 1964.



LOMONOSOVA L. S.

FA 172T66

USSR/Metals - Spectrography

Sep/Oct 50

"Spectral Method for Determination of Titanium and Niobium in Metallic Tantalum Powder," L.S. LOMONOSOVA

"Iz Ak Nauk SSSR, Ser Fiz" Vol XIV, No 5, pp 693-695

Prepd calibration curves for quantitative analysis of titanium and niobium in tantalum samples for use in industry.

172T66

Lomonosov, L. S.

Mch 3 1968

Spectrographic determination of some impurities in Ta
Isam. L. S. Lomonosov. Zhuravskaya Lab. 21, 1968-1
(1968). No. 10. Ta were detd. spec-
trographically with a precision of $\pm 0.6, 0.6, 0.6, 0.6$ and $8 \cdot 10^{-6}$.
The presence of Ti intensified the line of P⁺ and Si and de-
pending on the content of Ti present the error increased up
to $\pm 10\%$ and a correction for Ti was applied. The samples
of Ta were oxidized at $100-800^\circ$ for 10-20 min., compressed
into cylinders 1.5 mm. in diam. and 2.4 mm. high, and
placed in a hollow of the anode 1 mm. deep and 2.5 mm.
in diam.; d.c. arc 9 amp., exposure 25 sec.

Prts

Prts

LOMONOSOVA, L.S., inzhener; NEDOSPASOV, A.V., inzhener; NOVIK, A.Ye.,
inzhener.

Effect of admixtures of molecular gases on the radiation of
fluorescent lamps. Svetotekhnika 2 no.3:14-15 My '56. (MLRA 9:8)

1. Moskovskiy elektrolampovyy zavod.
(Fluorescent lamps)

PHASE I BOOK EXPLOITATION

1044

Lomonosova, Liya Simonovna and Fal'kova, Ol'ga Borisovna

Spektral'nyy analiz (Spectral Analysis) Moscow, Metallurgizdat, 1958. 420 p.
7,000 copies printed.

Ed.: Striganov, A.R., Doctor of Physical and Mathematical Sciences; Ed. of Publishing House: Berlin, Ye.N.; Tech. Ed.: Karasev, A.I.

PURPOSE: This book is intended as a textbook for metallurgical institutes, and may also be used to advantage by technicians working in spectroscopy laboratories.

COVERAGE: The author explains the theoretical aspects of spectral analysis. He describes the spectroscopic equipment used in this field, the techniques of using such equipment, and also brings out the important role played by spectral analysis in industry, especially in ferrous and nonferrous metallurgy. In Chapter VI the author lists several errors of measurement, random and systematic, of quantitative analysis. Recognition is given by the author to A.R. Striganov, V.G. Koritskom, S.M. Rayskom, I.M. Kustanovich, Kh.E. Sterin,

Card 1/9

Spectral Analysis 1044

L.I. Filimonov, and V.S. Kalmykov for their help in compiling this book.
There are 84 references, all Soviet.

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1. Subject of spectral analysis	9
2. The principle of spectral analysis	10
3. Characteristics of the spectral method of analysis, its advantage and fields of application	14
4. Short history of spectral analysis	16
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~~Card 2/9~~

LOMONOSOVA, L.S.; NEDOSPASOV, A.V.; NOVIK, A.Ye.

Effect of admixtures of molecular gases on the radiation of a
low-pressure mercury vapor discharge. Fiz.sbor. no.4:201-204
'58. (MIRA 12:5)

(Gases, Rare)

(Mercury--Spectra)

NEDOSPASOV, A.V., kand.fiz.-mat.nauk; LOMONOSOVA, L.S., inzh.; NOVIK,
A.Ye., inzh.

Cathode emission in fluorescent lamps. Svetotekhnika 5
no.9:7-9 S '59. (MIRA 13:2)

1. Moskovskiy elektrolampovyy zavod.
(Flourescent lamps)

LOMONOSOVA, M.S.

VINBERG, G.G.; LOMONOSOVA, M.S.

General count of bacteria and oxygen utilization rate in waters of various stages of pollution. Mikrobiologiya, Moskva 22 no.3:294-303 May-June 1953.
(GLML 25:5)

1. Belorussian Sanitary Institute, Minsk.

LOMONOSOVA, S.A. (Moscow).

Metastases of benign thyroid adenoma to the lungs. Klin.med. 31
no.12:55-57 D '53. (MLRA 7:1)

1. Iz terapevticheskoy kliniki (nauchnyy rukovoditel' professor
A.I.Kassirskiy) Tsentral'noy klinicheskoy bol'nitsy im. Semashko.
(Thyroid gland--Tumors) (Lungs--Tumors)

L 10663-63

EPF(c)/EWP(j)/EWT(m)/BDS--ASD--Pr-4/Pc-4--RM/WW/MAY 69
S/079/63/033/004/008/010 68

AUTHOR: Andrianov, K.A., Kurakov, G.A., Khananashvili, L.M.,
Lomonosova, T.A.

TITLE: Reaction of reamination of bis(diethylamino)-
derivative silanes and octamethylcyclotetrasilazane
with aromatic amines 1

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 4, 1963,
1294-1299

TEXT: The compounds of bis(diethylamino)methylsilane, bis(diethylamino)ethylsilane, diethylaminophenylaminoethylsilane, and bis(phenylamino)ethylsilane, of which the first two have not been described previously in published literature, are synthesized. These compounds are liquids which evaporate in a vacuum without decomposing and are easily hydrolyzed in air. They react with benzidine to form polymers which are solids at room temperature.

Card 1/2

z 10663-63

S/079/63/033/004/008/010 /

Reaction of reamination of...

The properties of these polymers are studied and are given in a table. It is shown that the reamination of bis(diethylamino)-ethylsilane by aniline takes place without the displacement of a hydrogen atom from the silicon to the amino group.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii
imeni M.V. Lomonosova (Moscow Institute of
Fine Chemical Technology imeni M.V. Lomonosov)

SUBMITTED: May 29, 1962

kes 
Card 2/2

TRAPEZNIKOV, A.A.; LOMONOSOVA, T.A.

Polymorphism, formation of oxyethylated alcohol hydrates and their equilibrium with monomolecular layers. Dokl. AN SSSR 155 no.6: 1419-1422 Ap '64. (MIRA 17:4)

1. Institut fizicheskoy khimii AN SSSR. Predstavleno akademikom A.N.Frumkinym.

LOGACHEV, N.A.; IOMONOSOVA, T.K.; KLIMANOVA, V.M.; FLORENSOV, N.A.,
otv. red.;

[Cenozoic sediments of the Irkutsk amphitheater] Kaino-
zoiskie otlozheniia Irkutskogo amfiteatra. Moskva, Izd-vo
"Nauka," 1964. 193 p. (MIRA 17:6)

1. Chlen-korrespondent AN SSSR (for Florensov).

IL'YUKHINA, A.V.; KASHCHHEYEV, G.N.; LOMONOSOVA, T.K.

Some characteristics of the sedimentation and mineral content of
Jurassic sediments in the northwestern part of the Irkutsk Basin.

Trudy Inst.geol.i geofiz.Sib.ctd.AN SSSR no.20:31-38 '6'

(MIRA 27:10)

24(7)

PLANE I BOOK EXPLORATION

1. Dev. Universitet

Materialy I Vsesoyuznogo soveshaniya po spektroskopii, 1956.
1. Ili Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956). Vol. 1. Atom Spectroscopy. Moscow, Nauka, 1956. 568 p. (Series: Itogi nauki i tekhn. Seriya Khimicheskiye nauki, vyp. 4(9)). 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR, Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.);
L.A. Rebernt, Doctor of Physical and Mathematical Sciences;
L.A. Fabelinskiy, Doctor of Physical and Mathematical Sciences;
V.A. Fabrikant, Doctor of Physical and Mathematical Sciences;
V.G. Koritskiy, Candidate of Technical Sciences; S.M. Muzily,
Candidate of Physical and Mathematical Sciences; L.K. Kilmovsky,
(Deceased), Doctor of Physical and Mathematical Sciences; V.S. Milyarchuk
Chairman, Doctor of Physical and Mathematical Sciences; A.Ye.
M.I. S.L. Gusev, Tech. M.I. I.V. Sarayuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

CONTENTS: This volume contains 177 scientific and technical studies of atomic spectroscopy presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and studies of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of elements in solutions, metallurgy, thermochemical analysis in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.) 207/1700
Dianov-Klokov, V.I. Logarithmic Spectrophotometer for Visible and Ultraviolet Regions 135

Shklover, D.A., and I.S. Faynberg. Electron-ray Spectrophotometers 139

Ivanova, M.K., T.M. Lomonosova, and A.V. Yakovleva. Studying the Reflecting Power of Aluminum and Rhodium Mirrors in the Vacuum Ultraviolet Region 143

Gerasimova, M.O., M.K. Ivanova, S.A. Kulikov, T.M. Lomonosova, and A.V. Yakovleva. Studying the Reflection and Transmission of Various Materials in the Vacuum Ultraviolet Region 145

Mandel'shtam, S.L., M.K. Smolodov, and V.P. Shabanovskiy. Processes at Electrodes for Spark Discharges 148

Vorontsov, Ye. I. Studying Certain Physical Processes in a High-power Pulse Discharge of Low Voltage 154

Barashkevich, I.O., and I.A. Buzuk. Mechanism of a Low-Voltage Condensed Discharge 158

Card 10/31

IVANOVA, M.K.; LOMONOSOVA, T.N.; YAKOVLEVA, A.V.

Investigating the reflecting power of aluminum and rhodium
mirrors in the vacuum ultraviolet. Fiz.sbor. no.4:143-146
'58. (MIRA 12:5)

1. Gosudarstvennyy ordena Lenina opticheskiy institut imeni
S.I.Vavilova.
(Ultraviolet rays) (Reflection (Optics))

GERASIMOVA, N.G.; IVANOVA, M.K.; KULIKOV, S.A.; LOMONOSOVA, T.N.;
YAKOVLEVA, A.V.

Investigating the reflection and transmission of various
materials in the vacuum ultraviolet. Fiz.sbor. no.4:146-148
'58. (MIRA 12:5)

(Ultraviolet rays) (Reflection (Optics))

Sov/51-4-4-20/24

AUTHOR: Ivanova, M.K., Lomonosova, T.N. and Yakovleva, A.Y.

TITLE: Action of Ultraviolet Radiation on Metallic Mirrors
(Deystviye ul'trafioletovogo izlucheniya na metallicheskiye zerkala)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 4,
pp 535-536 (USSR).

ABSTRACT: The authors measured the reflectivity of aluminium and rhodium mirrors in the Schumann region of the spectrum under the action of ultraviolet light in vacuum. The source of light was a hydrogen lamp GOI, which was placed opposite the slit of a vacuum fluorite spectrograph at an angle of 57° to the sample. The error in measurement was about 5%. Reflectivity of aluminium mirrors was found to depend strongly on the method of evaporation. Stringent precautions were necessary to ensure purity of the materials used and cleanliness of the base. The evaporation was produced using high currents through tungsten spirals. Figure 1 shows the reflectivity curves for aluminium mirrors obtained by various authors; Curves 1, 2, 4 and 5 correspond to Refs 7, 6, 8 and 4, respectively. Curve 3 in Figure 1 represents the present authors' results. Irradiation with ultraviolet in the Schumann region (beginning from 1700 Å)

Card1/3

Sov/51-4-4-20/24

Action of Ultraviolet Radiation on Metallic Mirrors

reduces reflectivity of aluminium and rhodium mirrors. The latter were obtained by electrolytic deposition and were stable under the action of atmospheric air. In Figure 2, Curve 1 gives the reflectivity of aluminium measured immediately after deposition; Curve 2 shows reflectivity after 8 hours of ultraviolet irradiation and Curve 3 after 15-25 hours of irradiation. Decrease of reflectivity of aluminium mirrors was found to reach a certain limit and further ultraviolet irradiation did not affect it. In Figure 2, Curve 4a (black circles) and Curve 5 represent rhodium mirrors, freshly prepared and after 8 hours of ultraviolet irradiation, respectively. Again, a fall of reflectivity was observed. Decrease of reflectivity is due to oxidation by residual oxygen in the apparatus where all measurements were made. This is confirmed by the reverse effects on reduction of mirrors by irradiation of them in an atmosphere of hydrogen. Figure 2, Curve 6, shows the reflectivity of aluminium, which was decreased by previous irradiation, after irradiation for 15 hours in an atmosphere of hydrogen. Figure 2, Curve 7, shows the effect of the same treatment for rhodium mirrors. Rhodium mirrors can be also reduced by treatment with nitric

Card2/3

Sov/51-4-4-20/24

Action of Ultraviolet Radiation on Metallic Mirrors

acid, as shown by Curve 4b (half-black circles). All these curves show that a considerable improvement or even a complete recovery of reflectivity is obtained by irradiation in a reducing atmosphere. Ultraviolet radiation affects also lithium fluoride and calcium fluoride crystals, both natural and synthetic. In this case, crystals lose some of their transparency. Again, ultraviolet irradiation in an atmosphere of hydrogen does not have harmful effects, as shown by the very long service (3 - 5 years) of hydrogen lamps with fluorite windows. There are 2 figures and 8 references, 4 of which are in English, 3 Soviet and 1 German.

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S.I. Vavilova
(State Optical Institute imeni S.I. Vavilov)

SUBMITTED: August 5, 1957

Card 3/3

1. Ultraviolet radiation--Reflective effects

LOMONOV, B.F.

Discussion of S.L. Rubinshtein book "Being and Consciousness" at
the A.I. Herten Leningrad Pedagogical Institute. Vop.psikhol. 5
no.1:181-185 Ja-F '59. (MIRA 12:4)
(Psychology)

LOMONOV, L.A. .

Effect on the heart of experimental arteriovenous aneurysms of long duration [with summary in English]. Biul.eksp.biol. i med. 45 no.6: 36-40 Je '58 (MIRA 11:8)

1. Iz kafedry gosital'noy terapii (zav. - prof. A.A. Demin)
Novosibirskogo meditsinskogo instituta (dir. - prof. G.D. Zalesskiy)
Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.
(FISTULA, ARTERIOVENOUS, experimental,
heart, pathol. (Rus))
(HEART, pathology
in exper. arteriovenous fistula (Rus))

LOMONOVA, G.V. (Gor'kiy)

Toxicity of dichloral urea. Gig. truda i prof. zab. 4 no.12:
27-31 D '60. (MIRA 15:3)

1. Gor'kovskiy gosudarstvennyy nauchno-issledovatel'skiy
institut gigiyeny truda i professional'nykh zabolevaniy.
(UREA—TOXICOLOGY)

LOMONOVA, G.V.; PREOBRAZHenskAYA, A.A.

Characteristics of the toxic properties of caprolactam. Trudy
GIGT no.9:34-40 '62. (MIRA 17:9)

LOMONOVA, G.V. (Gor'kiy)

Toxicological characteristics of the polymer of acrylonitrile.
Gig.truda i prof.zab. 6 no.6:54-57 Je '62. (MIRA 15:12)

1. Gor'kovskiy nauchno-issledovatel'skiy institut gigiyeny truda
i professional'nykh zabolevaniy.
(ACRYLONITRILE---TOXICOLOGY)

SATPAYEV, K.I.; BORUKAYEV, R.A.; AKHMEDSAFIN, U.M.; BOK, I.I.; KUSHEV, G.L.;
 SMIRNOV, N.G.; SHLYGIN, Ye.D.; SHCHERBA, G.N.; MONICH, V.K.;
 LOMONOVICH, I.I.; LAVROV, V.V.; MEDOYEV, G.TS.; NOVOKHATSKIY, I.P.;
 BARBOT-DE-MARNI, A.V.; GALITSKIY, V.V.; KOLOTILIN, N.F.; ZHILINSKIY,
 G.B.; KAYUPOV, A.K.; KAZANLI, D.N.; SATPAYEVA, T.A.; ABDULKABIROVA,
 M.A.; GAZIZOVA, K.S.; VETTS, B.I.; KHAYRUTDINOV, D.Kh.; MUKHAMEDZHANOV,
 S.M.; CHOLPANKULOV, T.Ch.; PARSHIN, A.V.; TAZHIBAYEVA, P.T.; YANULOVA,
 M.K.; BYKOVA, M.S.; VOLKOV, A.N.; BOLGOV, G.N.; MITRIAYEVA, N.M.;
 CHOKABAYEV, S.Ye.; KUNAYEV, D.S.; YARENSKAYA, M.A.; REBROVA, T.I.

Tireless explorer of the depths of the earth's crust; on the 65th
 birthday and 40th anniversary of the scientific engineering ac-
 tivities of Academician M.P. Rusakov. Vest. AN Kazakh. SSR 13
 no.12:96-97 D '57. (MIRA 11:1)

(Rusakov, Mikhail Petrovich, 1892-)

1. LOMCNOVICH, M. I.
2. USSR (600)
4. Loess - Kazakhstan
7. Problem of loess and loess-type soils in Kazakhstan. Vest. AN Kazakh. SSR 10, No. 11, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

LOMONOVICH, M.I.

Lithologic method of stratigraphic dissection of foothill loess. Biul.Kom.
chetv.per. no.17:34-42 '53. (MIRA 6:11)
(Loess)

LOMONOVICH, M. I.

"Origin of the Loess of Zailiyskiy Ala-Tau" (Geology of Quaternary Deposits, Loess)
Izv. AN Kaz. SSR, ser. geol., No 17, 1953, pp 48-76 (Kazakhstani resume)

Abs

W-31146, 1 Feb 55

LOMONOVICH, M.I., doktor geologo-mineralogicheskikh nauk.

Problem of the water supply of the agricultural supply area of
Alma Ata. Vest.AN Kazakh. SSR 11 no.7:39-42 J1 '54.(MIRA 7:11)
(Alma Ata region--Water supply) (Water supply--Alma Ata
region) (Alma Ata region--Agriculture) (Agriculture--
Alma Ata region)

LOMONOVICH, Mikhail Ivanovich, doktor geologo-mineralogicheskikh nauk;
ALPYSANDRIYSKIY, V.V., redaktor; ROKINA, Z.P., tekhnicheskii
redaktor

[Loess in Kazakhstan and its importance in the national economy]
Less v Kazakhstane i ego znachenie v narodnom khoziaistve. Alma-Ata.
Izd-vo Akademii nauk Kazakhskoi SSR, 1955. 78 p. (MLRA 9:12)
(Kazakhstan--Loess)

LOMONOVICH, M. I.

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 7,
p 32 (USSR) 14-57-7-14467

AUTHOR: Lomonovich, M. I.

TITLE: Relation of Structure and Relief to Seismic Activity
(O svyazi seysmichnosti so strukturami i rel'yefom)

PERIODICAL: Izv. AN KazSSR, ser. geol., 1956, Nr 24, pp 102-107

ABSTRACT:

The author notes that there is no unanimity of opinion on the question of a relation of earthquakes and tectonic structure. He points out that areas of sharp and contrasting relief are more prone to earthquakes; for this reason geomorphology is very important in seismological investigations. The connection between shallow-focus earthquakes and recent tectonic movements and structures (neotectonics) expressed in the relief may be considered proven. Deep-seated earthquakes are connected with depth

Card 1/2

LOMONOVICH, M.I.

LOMONOVICH, M.I., doktor geologo-mineralogicheskikh nauk.

Seismological features of the Trans-Ili Ala-Tau region and building problems in Alma-Ata. Vest.AN Kazakh.SSR 13 no.5:9-25 My '57.

(MLBA 10:9)

(Trans-Ili Ala-Tau Region--Earthquakes)
(Alma-Ata--Building)

LOMONOVICH, M.I.

Stratigraphic division of Quaternary sediments in the trans-Ili
Ala-Tau. Biul.Kom.chetv.per. no.23:35-45 '59. (MIRA 13:4)
(Trans-Ili Ala-Tau--Geology, Stratigraphic)

BOK, I.I.; BARBOT de MARNI, A.V.; VISLOGUZOVA, A.V.; GALIYEV, M.S.;
LI, A.B.; LOMONOVICH, M.I.; YAKOVENKO, Z.V.; ASSING, I.I.;
NURMANGALIYEV, A.B.; SOKOLOV, S.I.; GRIGOR'YEVA, Ye.P.;
SEROV, N.P.; LEONOV, G.M.; ZAKHAROV, B.S.; ZAGAYNOV, V.I.;
BOROVSKIY, V.M.; LITVINOVA, A.A.; POGREBINSKIY, M.A.;
NASONOVA, O.M.; KHAYDAROV, R.M.; SUVOROVA, R.I., red.;
ALFEROVA, P.F., tekhn. red.

[Ili Valley, its nature and resources] Iliiskaia dolina, ee
priroda i resursy. Pod obshchei red. M.I. Lomonovicha. Alma-
Ata, Izd-vo AN Kaz.SSR, 1963. 338 p. (MIRA 16:8)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Institut geologicheskikh nauk.
2. Nauchnyye sotrudniki Instituta geologicheskikh nauk AN KazSSR (for Bok, Barbot de Marni, Visloguzova, Galiyev, Li, Lomonovich, Yakovenko).
3. Institut pochvovedeniya AN KazSSR (for Assing, Nurmangaliyev, Sokolov, Borovskiy, Litvinova, Pogrebinskiy).
4. Institut botaniki AN KazSSR (for Grigor'yeva, Nasonova).
5. Institut zoologii AN KazSSR (for Serov).
6. Kazakhskiy politekhnicheskiy institut (for Leonov).
7. Ministerstvo sel'skogo khozyaystva KazSSR (for Zakharov).
8. Kazanskiy filial Instituta "Gidroyekt" im. S.Ya. Zhuka (for Khaydarov).

(Ili Valley--Physical geography)

LOMOT', K.I.

New data on the traces of volcanic activity in the Paleozoic
deposits of Second Baku. Dokl. AN SSSR 94 no.4:749-751 P '54.
(MLRA 7:2)
(Second Baku--Geology, Stratigraphic) (Geology, Stratigraphic--
Second Baku)

Lomot', K.I.

LOMOT', K.I.

Formation conditions of Devonian rock and their underlying deposits
in the Volga-Ural region. Trudy VNIGRI no.82:24-67 '55.
(MLRA 8:11)

(Second Baku--Geology, Stratigraphic)

15-1957-3-2986D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3,
p 80 (USSR)

AUTHOR: Lomot', K.I.

TITLE: The Lithology and Conditions of Formation of the Devonian and Older Clastic Rocks of the Volga-Ural Region
(Litologiya i usloviya obrazovaniya devonskikh i boleye drevnikh terrigennykh i telshch Volgo-Ural'skoy oblasti)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Geological and Mineralogical Sciences, presented to the Vses. nef. n.-i. geol.-razved. in-t (All-Union Scientific Research Institute for the Geological Surveying of Petroleum), Moscow-Leningrad, 1956.

ASSOCIATION: Vses. nef. n.-i. geol.-razved. in-t (All-Union Scientific Research Institute for the Geological Surveying of Petroleum), Moscow-Leningrad.

Card 1/1

LOMOT', K.I.

Carboniferous and Permian sediments in the Volga-Ural area and
conditions of their formation. Avtoref. nauch. trud. VNIIGRI no.17:
10-25 '56. (MIRA 11:6)
(Volga Valley--Rocks, Sedimentary)
(Ural Mountain region--Rocks, Sedimentary)

LOMOT', K.I.

Lithological characteristics of Carboniferous and Permian
sediments in the Volga-Ural area and physicochemical factors
determining their formation. Trudy VNIGRI no.117:22-63 '58.
(MIRA 12:4)

(Volga Valley--Rocks, Sedimentary)
(Ural Mountain region--Rocks, Sedimentary)

11(8)

YUG/2-59-4-5/16

AUTHOR: Lomota, Darko (Vodnjan-Istra)

SUBJECT: Processing of Plastics by Vacuum Presses (Prerada
plastičnih masa na vakuum prešama)

MODIFIED: Kemija u industriji, 1959, Nr 4, pp P/P-4 - P/P-6 (YUG)

REMARKS: The author describes vacuum presses used for processing
certain plastics and the methods of operating these
presses. There are 2 sets of diagrams.

11(8)

VAYNBERG, Mikhail Solomonovich, kand.tekhn.nauk. Prinimali uchastiye:
LOMOTIKOV, G.P., inzh.; VINOGRADOV, V.Ya.. SHCHEGLOV, K.A.,
red.; PANCHENKO, M.F., red.izd-va; LELYUKHIN, A.A., tekhn.red.

[Planning of general schemes for city sanitation] Proektirovanie
general'nykh skhem sanitarnoi ochistki gorodov. Moskva, Izd-vo
M-va kommun.khoz.RSFSR, 1960. 142 p. (MIRA 13:7)
(Sanitary engineering)

LOMOTIKOV, V., (Moskva)

Determining interference arising from frequency gap. Radio
no. 6:50 Je '55. (MIRA 8:8)
(Radio--Interference)

LOMOURI, A.I.

LOMOURI, A.I.: "Material on the states of permeability of the capillaries, plasma proteins, and residual nitrogen in hypertonic disease". Tbilisi, 1955. Published by the Acad Sci Georgian SSR. Tbilisi State Medical Inst. (Dissertations for the Degree of Candidate of Medical Sciences).

SO: Knizhnaya letoris' No 45, 5 November 1955. Moscow.

STEPUN, O.A.; LOMOURI, A.I.; AKHMETELI, G.S.

A new pressor substance, renole, obtained from an ischemic kidney.
Soob.AN Gruz.SSR 16 no.4:277-279 '55. (MIRA 8:12)

1. Akademiya nauk Gruzinskoy SSR., Institut klinicheskoy i eksperimental'noy kardiologii, Tbilisi. Predstavleno deystvitel'nykh chlenom Akademii M.D.TSinamdzgvirishvili
(Vasomotor drugs) (Kidneys)

- LOMOURI, A. I.

USSR/Human and Animal Physiology - Blood Circulation.
Vessels.

T-6

Abs Jour : Ref Zhur - Biol., No 10, 1958, 46077

Author : LOMOURI, A.I.

Inst : Institute of Clinical and Experimental Cardiology AS
Georgian SSR.

Title : Methods Studying Resistibility and Permeability of Capil-
laries (The Problem of Applying Lendis' Method Determin-
ing the Bilateral Permeability of Capillaries).

Orig Pub : Tr. In-t klinich. i eksperim. kardiol. AN GruzSSR, 1956
(1957), 4, 71-94.

Abstract : The method of Lendis makes it possible to judge the bila-
teral permeability of capillaries. The author considers
it expedient to use the indicators of the percentage re-
lationship existing between secreted proteins and fluids

Card 1/2

Card 2/2

- 56 -

LOMCURI, A.I.

Regional changes in blood pressure in hypertension and some
other diseases of the cardiovascular system. Truly Inst. Klin.
i eksper. kard. AN Gruz. SSR 2:231-238 '68. (MIRA 17:7,

1. Institut kardiologii AN GruzSSR, Tbilisi.

LOMBURI, A.I.

Materials on the state of the histone-membrane barrier in some
cardiovascular diseases. Trudy Inst. Akad. Nauk SSSR, Kard.
AN Gruz. SSR 8:285-289 1973. (MIA 17.2)

1. Institut kardiologii AN GruzSSR, Tbilisi.

LOMOV, A.

Ferrous metallurgy of Uzbekistan during the seven-year plan. Metallurg
7 no.3:33-34 Mr '62. (MIRA 15:2)

1. Nachal'nik otdela metallurgii i mineral'nogo syr'a Gosplana
Uzbekskoy SSR.

(Uzbekistan--Metallurgical plants)

LOMOV, A.

Expansion of nonferrous metallurgy in the Uzbek S.S.R. TSvet,
met. 35 no.3:7-10 Mr '62. (MIRA 15:4)
(Uzbekistan--Nonferrous metals--Metallurgy)

LOMOV, A.

Conference on the use of Angren deposit kaolins. *Svet.met.*

35 no.8:87-88 Ag '62.

(Angren Valley--Kaolin) (Aluminum--Metallurgy)

L 9031-66 EWT(d)/EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l)/EWA(h)/EWA(c)
 ACC NR: AP5024956 JD/HW

SOURCE CODE: UR/0286/65/000/016/0018/0018

AUTHORS: Stepanov, V. G.; Pankratov, V. P.; Lomov, A. A.

ORG: none

TITLE: Dismountable tank for hydro-explosive forming. Class 7, No. 173696
 /announced by Organization of the State Committee on Shipbuilding, SSSR
 (Organizatsiya gosudarstvennogo komiteta po sudostroyeniyu SSSR)

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 18

TOPIC TAGS: explosive forming, hydro explosive forming, explosion tank, metal-
 working

ABSTRACT: This Author Certificate presents a dismountable tank for hydro-explosive forming, consisting of stacked circular sections which are sealed along the perimeter and reinforced by external ribs (see Fig. 1). To increase life and flexibility of use, the sections can be disassembled vertically into two or more parts which have vertical ribs along the separation lines and which can be assembled by using clamps. To decrease the tank expansion during the blast, a second feature provides holes in the vertical ribs through which cables can be passed.

Card 1/2

UDC: 621.983.044.06

L 9031-66

ACC NR:

AP5024956

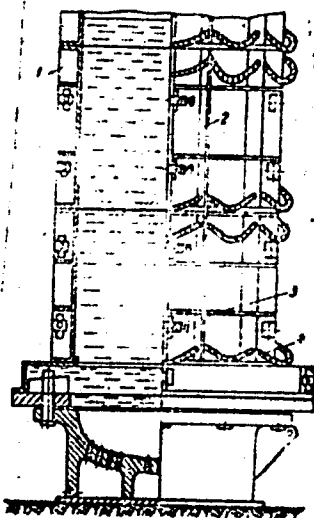


Fig. 1. 1 - Sections;
2 - vertical ribs;
3 - clamps;
4 - cable.

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 12Feb64

Card 2/2 *pu*

5(4)

AUTHORS:

Nikol'skaya, A. V., Lomov, A. L., Gerasimov, Ya. I. (Moscow)

SOV/76-33-5-27/33

TITLE:

The Investigation of the Thermodynamic Properties of Binary Metallic Systems According to the Method of Electromotoric Forces (Issledovaniye termodinamicheskikh svoystv dvoynykh metallicheskh sistem metodom elektrodvizhushchikh sil). 5. The System Copper - Bismuth (5. Sistema med' - vismut)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 5, pp 1134 - 1139 (USSR)

ABSTRACT:

The concentration chains $\text{Cu}_{\text{solid}} | \text{CuCl}, \text{NaCl} - \text{KCl} | (\text{Cu}_N \text{Bi}_{1-N})^+$ liquid (N = molar copper content of the melt) were investigated. The investigation was carried out in a temperature interval of from 1150 - 1225°K at a concentration $N_{\text{Cu}} = 0.063 - 0.710$. The values for the emf were plotted as $f(T)$ for each concentration, and a linear dependence was found. The values for 1150, 1175, 1200, and 1225°K were found by interpolation. Table 1 shows these values. The activity of copper with regard to solid and to liquid undercooled

Card 1/3

The Investigation of the Thermodynamic Properties of Binary Metallic Systems According to the Method of Electromotoric Forces. 5. The System Copper - Bismuth

SOV/76-33-5-27/33

copper was calculated from the values for the emf. The values for the logarithm of the activity coefficient of copper ($\lg \gamma_{\text{Cu}}$), the partial heats, and the surplus entropies of the mixing of copper are also shown in table 1. Table 2 shows the corresponding values for bismuth. The values for electrodes with a copper content $N > 0.701$ were found by extrapolation. Figures 1 and 2 show graphical description of the partial and integral heats and the mixing entropies. The system Cu-Bi differs considerably from Raoult's law. The differences decrease with rising temperature. The Cu-Bi melts are formed under heat absorption, the mixing heats being considerably high. With equiatomic composition their maximum is 1600 kcal/g-atm. The considerable positive differences of the entropy from the ideal values are characteristic of Cu - Bi melts. This fact is explained by the great difference of the atomic volumina of the two components. The retarded change of the mixing heat and the mixing entropies in the range of from 0.3 - 0.7 N_{Cu} is indicated. Hence

Card 2/3

The Investigation of the Thermodynamic Properties
of Binary Metallic Systems According to the Method of Electromotive
Forces. 5. The System Copper - Bismuth SOV/76-33-5-27/33

It is concluded that the Cu - Bi melts have a microhetero-
geneous structure. There are 3 figures, 2 tables, and 12
references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: November 11, 1957

Card 3/3

S/081/62/000/018/004/059
B101/B186

AUTHORS: Krestovnikov, A. N., Lomov, A. L.

TITLE: Thermodynamics of reduction reactions of titanium oxides.
Reduction of titanium dioxide with hydrogen

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1962, 42, abstract
18B272 (Sb. nauchn. tr. In-t tsvetn. met. im. M. I.
Kalinina, v. 33, 1960, 8 - 12)

TEXT: The reduction reactions of TiO_2 with hydrogen and carbon were analysed thermodynamically on the basis of published data, resulting from which the following equations are recommended: for

$2TiO_2 + H_2 \rightarrow Ti_2O_3 + H_2O$, $\Delta H_T = 4095 + 0.874T + 3.856 \cdot 10^{-3}T^2$,
 $\Delta Z_T = 4095 - 2.0125T \log T - 3.856 \cdot 10^{-3}T^2 - 10.1T$; for $TiO_2 + 3C \rightleftharpoons TiC + 2CO$,
 $\Delta H_T = 109400 - 4T$, $\Delta Z_T = 109400 + 9.2 T \log T - 110.86T$. The mechanism of TiO_2 reduction with hydrogen and carbon is discussed. [Abstracter's

Card 1/2

Thermodynamics of reduction

S/081/62/000/018/004/059
B101/B186

note: Complete translation.]

Card 2/2

84245

11.2219
5.3700 also 2205

S/076/60/034/003/003/022
B015/B056

AUTHORS: Balamutova, E. A., Shukhparonov, M. I., Lel'chuk, S. I.,
Lomov, A. L., Mal'kova, G. N., Martynova, M. Ye., and
Glushkova, L. F.

TITLE: Investigation of the Pressure and Density of Vapor in
Systems Containing Organosilicon Compounds. II. The Systems:
Methyldichlorosilane - Methyltrichlorosilane - Methyl-
phenyldichlorosilane, and Methylphenyldichlorosilane -
Methylchlorophenyldichlorosilane - Methyldichlorophenyl-
dichlorosilane

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 9.
pp. 1916-1919

TEXT: The working method and the measuring technique of the investiga-
tions mentioned in the title have already been described in a previous
paper (Ref. 1). The pressure and density of the saturated vapor phase
over the systems mentioned in the title were measured in a broad con-
centration and temperature range. The constants of the Antoine equations,

Card 1/3

84245

Investigation of the Pressure and Density
of Vapor in Systems Containing Organosilicon
Compounds. II. The Systems: Methylchlorosilane - Methyltrichlorosilane - Methyl-
phenyldichlorosilane, and Methylphenyldichloro-
silane - Methylchlorophenyldichlorosilane -
Methyldichlorophenyldichlorosilane

S/076/60/034/009/003/022
B015/B056

as well as the values of the evaporation heats and evaporation entropies
for the individual components (Table 1), and the two- and three-component
solutions at normal boiling temperature were calculated (Table 2). The
values obtained show that the vapors of methyltrichlorosilane and methyl-
chlorophenyldichlorosilane contain associated molecules, whereas the vapors
of methyldichlorophenyldichlorosilane do not associate. At 100°C and about
900 torr, the vapor (in equilibrium) over a solution of 50 mole%
 $\text{CH}_3\text{SiHCl}_2 + 50 \text{ mole\% } \text{CH}_3\text{SiCl}_3$ consists nearly entirely of methyl-
dichlorosilane. At temperatures from 40° to 100°C, the vapor composition
of the three-component solutions $\text{CH}_3\text{SiHCl}_2 - \text{CH}_3\text{SiCl}_3 - \text{CH}_3\text{C}_6\text{H}_5\text{SiCl}_2$
is slightly different from that of the binary system $\text{CH}_3\text{SiHCl}_2 - \text{CH}_3\text{SiCl}_3$,
at the same molar ratio of the latter components. Calculations carried

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84245

Investigation of the Pressure and Density
of Vapor in Systems Containing Organosilicon
Compounds. II. The Systems: Methylchlorosilane - Methyltrichlorosilane - Methyl-
phenyldichlorosilane, and Methylphenyldichloro-
silane - Methylchlorophenyldichlorosilane .
Methyldichlorophenyldichlorosilane

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B015/B056

out on the basis of the Antoine equation show that above 100°C no change
in the $\text{CH}_3\text{C}_6\text{H}_5\text{SiCl}_2$ content in the vapor phase takes place, i.e., the
content remains low with the exception of solutions in which the molar
ratio of $\text{CH}_3\text{C}_6\text{H}_5\text{SiCl}_2$ is near unity. There are 2 figures, 2 tables, and
2 references: 1 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

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PR

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TITLE: Investigation of the Vapor Pressure and Density in
Systems Containing Organo-silicon Compounds III The
Systems Dimethyldichlorosilane - Methylchloromethyl-
dichlorosilane and Trimethylchlorosilane - Dimethyl-
chloromethylchlorosilane - Dimethyl Dichloromethyl-
chlorosilane

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TEXT: Pressure and density of the saturated vapor of the
systems $(CH_3)_2SiCl_2 - CH_3CH_2ClSiCl_2 - CH_3CHCl_2SiCl_2$ and $(CH_3)_3SiCl -$
 $(CH_3)_2CH_2ClSiCl - (CH_3)_2CHCl_2SiCl$ were investigated in the wide range

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①

Investigation of the Vapor Pressure and
Density in Systems Containing Organo -
- silicon Compounds. III. The Systems

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B015/B064

Dimethyldichlorosilane - Methylchloro-
methyldichlorosilane and Trimethylchlorosilane - Dimethylchloromethyl-
chlorosilane - Dimethyl Dichloromethylchlorosilane

of concentration and for temperatures of from 0° to 150°C. The same method of measurement was used as in a previous paper (Ref. 1), and pressure and density of the individual components were determined. The curves obtained on the temperature dependence of pressure and density show that pressure and density of the systems investigated rise exponentially with temperature. Table 1 gives the values of the refractive indices, the density, the boiling points of the components at 760 mm Hg, the molecular weight of vapor at this pressure, the values of the constants of the Antoine equation as well as the values of the evaporation heat and evaporation entropy at the normal boiling point.

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Table 1

1 Вещество	2 n_D^{20}	3 d_4^{20}	4 Т. кип. при 760 мм	5 М пара при 760 мм	6 М теор	7 А	8 В	9 С	10 ΔH	11 ΔS
$(CH_3)_3SiCl$	1,4052	1,0715	70,1	129,0	129,0	9,572	3110	345	7450	21,7
$CH_3CH_2ClSiCl_2$	1,4494	1,2832	119,5	171,0	163,8	6,930	1265	194	9150	22,6
$CH_3CHCl_2SiCl_2$	1,4690	1,4107	149,0	198,2	198,0	6,306	123,0	203	7940	18,8
$(CH_3)_2SiCl$	1,3888	0,8581	57,7	112,3	108,65	7,0096	1184	220	7580	22,8
$(CH_3)_2CH_2ClSiCl_2$	1,4372	1,0844	114,9	152	143,1	9,035	2635	314	8460	21,8

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Table 2

Solution Раствор	n_D^{20}	d_4^{20}	A	B	C	ΔH	ΔS	T. $\frac{K}{C}$
50% (CH ₃) ₂ SiCl ₂ + 50% CH ₃ CH ₂ ClSiCl ₂	1,4309	1,1842	5,826	732	159	6960	19,2	89,4
50% (CH ₃) ₂ SiCl ₂ + 50% CH ₃ CHCl ₂ SiCl ₂	1,4450	1,252	6,535	1130	216	7250	19,8	93,5
50% CH ₃ CH ₂ ClSiCl ₂ + + 50% CH ₃ CHCl ₂ SiCl ₂	1,4610	1,344	7,054	1435	124	10800	26,8	130,9
33% (CH ₃) ₂ SiCl ₂ + 33% CH ₃ CH ₂ ClSiCl ₂ + + 34% CH ₃ CHCl ₂ SiCl ₂	1,4469	1,2679	—	—	—	9500	25,2	103,0
50% (CH ₃) ₂ SiCl ₂ + 50% (CH ₃) ₂ × × CH ₃ ClSiCl ₂	4,4158	0,6197	14,763	10550	810	7540	21,4	78,8
50% (CH ₃) ₂ SiCl ₂ + 50% (CH ₃) ₂ × × CHCl ₂ SiCl ₂	1,4304	1,05121	6,023	1426	264	830	18,9	88,5
50% (CH ₃) ₂ CH ₂ ClSiCl ₂ + 50% (CH ₃) ₂ × × CHCl ₂ SiCl ₂	—	1,1585	—	—	—	5480	13,6	124,0
33% CHCl ₂ (CH ₃) ₂ SiCl ₂ + 34% (CH ₃) ₂ × × SiCl ₂ + 33% CH ₃ CH ₂ ClSiCl ₂	1,4321	1,0070	—	—	—	7600	19,9	108,0

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Table 2 (continued)

Таблица 2 (продолжение)

Solution Раствор	M	$\alpha'(\text{CH}_3)_2\text{SiCl}_2$	$\alpha'(\text{CH}_3)_2\text{SiCl}_2 \times$ $+ \text{CH}_3\text{CHCl}_2\text{SiCl}_2$	$\alpha'(\text{CH}_3)_2\text{SiCl}_2$	$\alpha'(\text{CH}_3)_2\text{SiCl}_2 \times$ $+ \text{CH}_3\text{CHCl}_2\text{SiCl}_2$
50% $(\text{CH}_3)_2\text{SiCl}_2 + 50\% \text{CH}_3\text{CH}_2\text{ClSiCl}_2$	142,3	0,68	0,32	—	—
50% $(\text{CH}_3)_2\text{SiCl}_2 + 50\% \text{CH}_3\text{CHCl}_2\text{SiCl}_2$	139,7	0,845	—	—	—
50% $\text{CH}_3\text{CH}_2\text{ClSiCl}_2 +$ $+ 50\% \text{CH}_3\text{CHCl}_2\text{SiCl}_2$	180,0	—	0,605	—	—
33% $(\text{CH}_3)_2\text{SiCl}_2 + 33\% \text{CH}_3\text{CH}_2\text{ClSiCl}_2 +$ $+ 34\% \text{CH}_3\text{CHCl}_2\text{SiCl}_2$	142,5	0,70	0,18	—	—
50% $(\text{CH}_3)_2\text{SiCl}_2 + 50\% (\text{CH}_3)_2\text{X}$ $\times \text{CH}_2\text{ClSiCl}_2$	113,0	—	—	0,00	0,10
50% $(\text{CH}_3)_2\text{SiCl}_2 + 50\% (\text{CH}_3)_2\text{X}$ $\times \text{CHCl}_2\text{SiCl}_2$	114,0	—	—	—	—
50% $(\text{CH}_3)_2\text{CH}_2\text{ClSiCl}_2 + 50\% (\text{CH}_3)_2\text{X}$ $\times \text{CHCl}_2\text{SiCl}_2$	147,5	—	—	—	0,860
33% $\text{CHCl}_2(\text{CH}_3)_2\text{SiCl}_2 + 34\% (\text{CH}_3)_2\text{X}$ $\times \text{SiCl}_2 + 33\% \text{CH}_3\text{CH}_2\text{ClSiCl}_2$	135,6	—	—	$\approx 0,855$	$\approx 0,132$

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Legend to Tables 1, 2: In Table 1, 1 denotes the substance, 2 = boiling point at 760 mm Hg, 3 = molecular weight M at 760 mm Hg, 3 = M theoretical. 1 = boiling point in °C in Table 2. There are 4 figures, 2 tables and 2 Soviet references.

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GERASIMOV, Yakov Ivanovich; KRESTOVNIKOV, Aleksandr Nikolayevich; SHAKHOV, Aleksey Sergeyevich. Prinimali uchastiye: DUDAREVA, A.G., assistant; LOMOV, A.L., assistant; FEYGINA, Ye.I., assistant; VYGODSKIY, I.A., inzh.; KUZNETSOV, F.A., aspirant; LAVRENT'YEV, V.I., aspirant; CHERNOV, A.N., red.; KAMAYEVA, O.M., red. izd-va; MIKHAYLOVA, V.V., tekhn. red.

[Chemical thermodynamics in nonferrous metallurgy] Khimicheskaya termodinamika v tsvetnoi metallurgii. Moskva, Gos. nauchno-tekhn. izdatel'stvo lit-ry po chernoi i tsvetnoi metallurgii. Vol.2. [Thermodynamics of copper, lead, tin, silver and their most important compounds; a handbook] Termodinamika medi, svintsa, olova, serebra i ikh vazhnykh soedinenii; spravochnoe rukovodstvo. 1961. 262 p. (MIRA 14:11)

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